In the Specification:

Paragraph 15 beginning on page 8 and ending on page 9 has been amended as shown below:

Here, assuming that the feature value at the ~~move~~ <u>movie</u> image information input side A is F_i and that at the data-base side B is F_d, the matching process between both the values is represented by the following Formula (1)

$$(F_i - F_d)^2 \leq Th.......(1)$$

As represented by Formula (1), by determining both the feature value information with the threshold value Th which is the quantization error, it is possible to detect such time changing information as the movie image information and the audio information. In this invention, since the time changing feature values are effectively quantized, the amount of data subjected to the matching process is decreased, thereby enabling the high-speed search process.

Paragraph 24 beginning on page 12 has been amended as shown below:

Fig. 4 is a graph which shows the changing levels in the direction of time, of the feature value of the image signal such as the brightness or the color of the movie image information. As shown in the drawings, the movie image information changes in its feature value in time for a given scene, and there is a tendency that the feature value largely changes in its level in the case where the image greatly changes or the scene is switched

over from one to another. By utilizing the feature value of the image signal which varies in time, the width of the variation is quantized with the width T of ~~quatization~~ <u>quantization</u>, whereby the representative value A of the feature value of the period L in direction of time is determined. Here, the value A may be gained at the starting point or the ending point of the time period L, or it may be a mean value of the feature values in the same period L. Alternatively, the value A may be obtained by linear or non-linear division, for example, the peak or the center of the distribution in the quantization period and, further, quantization accompanying equalizing or weighting may be adopted.

Paragraph 27 beginning on page 13 has been amended as shown below:

Step 101 through Step 105 are the processes for calculating the feature value information at the movie image information input side A. Step 106 through Step 110 are the processes for calculating the feature value information at the data-base side B. The movie image information is inputted in Step 101, the feature value of the movie image information, which is used for the matching process, is calculated in Step 102, and the feature value information calculated is quantized with the width T of quantization in Step 103. Further, the period L_i subjected to the quantization is derived in Step 104, and the representative value A_i at the ~~quatization~~ quantization period L_i is derived in Step 105. On the other hand, the same procedures as above are performed at the data-base side B. In Step 110, the representative value A_d at the quantization period L_d is derived. In this case, the feature value at the data-base side may have been calculated in advance with the process efficiency being taken into consideration.

Paragraph 32 beginning on page 16 has been amended as shown below:

As the time feature value of the movie image information, it is possible to use any

information derived from the numerical picture element data such as color, luminance and

its average value or distribution value of the movie image information, or distribution

information. In this embodiment, as shown in Fig. 7, the average value of the luminance

signal is used as the time changing parameter of the movie image information. Referring

to Fig. 7, the luminance value for each frame is obtained from the inputted movie image

information and, then, the average value of the frame is calculated from the luminance

value. By further quantizing the calculated average value, the quantization period and the

representation value in that period are calculated. Fig. 8 is a graph showing the time

changing aspect wherein the time feature value using the average value of the luminance

value is subjected to ~~quatization~~ <u>quantization</u> with the width T of quantization. Fig. 8 shows

an example wherein the matching is performed using the quantization periods L_1 through

L_6 and their representative values A_1 through A_6 of the respective periods of the movie

image information.

Paragraph 34 beginning on page 17 has been amended as shown below:

The feature value information is produced by obtaining the average values for the respective frames and then these average values are quantized with the quantization width T. This feature value information includes the ~~quatization~~ quantization periods L_1 through L_6 and the representative values A_1 through A_6 shown in Fig. 8. In the same manner as above, the feature value information at the data-base side is produced and is compared with the respective values. Specifically, a determination between, for example, the quantization period L_i at the input side and the quantization period L_d at the data-base side and, in the same manner, a determination between, for example, the representative value A_i in that quantization period L_i at the input side and the representative value A_d in that quantization period L_d at the data-base side are performed using the following Formulas (3) and (4).

$$(L_i - L_d)^2 \leq Th \ldots\ldots (3)$$

$$(A_i - A_d)^2 \leq Th \ldots\ldots (4)$$

Paragraph 36 beginning on page 18 has been amended as shown below:

Step 201 through Step 206 are the processes for calculating the feature value information at the movie image information input side A. Step 207 through Step 210 are the processes for calculating the feature value information at the data-base side B. The movie image information is inputted in Step 201, the luminance value of the movie image information is derived in Step 202, the average value is calculated from the derived luminance value in Step 203, and the quantization of the average value of the luminance value obtained in Step 203 is made in Step 204. In Step 205, the values of the quantization periods L_1 through L_6 are obtained and, in Step 206, the values of the representative values A_1 through A_6 corresponding to the ~~quantiztion~~ <u>quantization</u> periods L_1 through L_6 are obtained. On the other hand, the similar procedures are performed at the data-base side B. Specifically, the movie image information at the data-base side is inputted in Step 207, the luminance value of the movie image information is derived in Step 208, the average value is calculated from the de rived luminance value in Step 209, and the quantization of the average value of the luminance value obtained in Step 209 is made in Step 210. Up to the above steps at the data-base side, the feature values may have been calculated in advance with the process efficiency being taken into consideration.

Paragraph 53 beginning on page 24 has been amended as shown below:

Second Embodiment

Next, another embodiment of the invention is explained. In this embodiment, as the time feature value of the movie image information, amplitude distribution of the luminance signal between before and after the frame of the movie image information, that is, the frequency distribution of the luminance signal is used and its correlation is utilized. Fig. 10 is a block diagram showing an embodiment wherein the correlation value calculated from the luminance value distribution is used as the feature value information. Referring to Fig. 10, first, the luminance signal is calculated from the inputted movie image information, the distribution of the amplitude thereof is obtained, then, the correlation value between before and after the frame from the above amplitude distribution in formation is calculated, and the quantization period and the representative values in the quantization period are calculated by the quantization of the correlation value. Fig. 11 is a graph showing the case wherein the correlation value calculated from the luminance value distribution is quantized as the time feature value. Since the feature value information of the inputted movie image in formation is the quantization of the correlation value, the time changing where the quantization is made with the quantization width T becomes the waveform as shown in Fig. 11. In Fig. 11, the matching is conducted with the longest quantization period L_7 among the quantization periods of the inputted movie image information, the quantization period L_6 which is before the ~~quatization~~ quantization period L_7 by one, the quantization period L_8

which is after the ~~quatization~~ <u>quantization</u> period L_7 by one, and the representative values

A_6 and A_8 in both the quantization periods L_6 and L_8.